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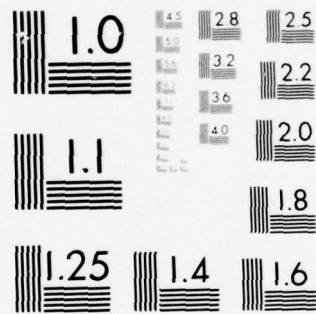
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THE ROLE OF THE PROGRAM MANAGER
IN NAVELEX FIELD ACTIVITIES

STUDY PROJECT REPORT
PMC 76-2

Ralph G. Jenkins
GS-14 DNC

FORT BELVOIR, VIRGINIA 22060

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DEFENSE SYSTEMS MANAGEMENT COLLEGE

STUDY TITLE:

THE ROLE OF THE PROGRAM MANAGER IN NAVELEX FIELD ACTIVITIES

STUDY PROJECT GOALS:

Review Program Management as practiced in NAVELEX Field Activities, note the difference between that and Program Management practiced at Headquarters and taught at Defense Systems Management College, and apply the teachings of Defense Systems Management College to that type of Program Management.

STUDY REPORT ABSTRACT:

Program Management as practiced at the NAVELEX Field Activities is quite different than Program Management as taught at Defense Systems Management College and as practiced at Headquarters Project Management Offices. The Field Activity Program Manager is more a Coordinator than a Program Manager. He is responsible for coordinating the efforts of many functional codes but does not have the direct authority often found in a Headquarters Program Management Office. This paper highlights these differences and outlines what the duties/responsibilities of the NAVELEX Field Activity Program Manager should be, recommends an organization and relates the Program Manager to this organization and the functional codes.

SUBJECT DESCRIPTORS: Program Management
Project Management
Management
Management Techniques

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THE ROLE OF THE PROGRAM MANAGER
IN NAVELEX FIELD ACTIVITIES

Study Project Report
Individual Study Program

Defense Systems Management School
Program Management Course
Class 76-2

by

Ralph G. Jenkins
GS-14 DNC

October 1976

Study Project Advisor
CDR Herb Woods, USN

This study project report represents the views, conclusions and recommendations of the author and does not necessarily reflect the official opinion of the Defense Systems Management School or the Department of Defense.

EXECUTIVE SUMMARY

The field of Program Management is quite varied. PMC 76-2 has properly emphasized the Program Manager's involvement in the acquisition of large complex weapons systems through a Program Management Office. In this study project, the duties and responsibilities of Program Managers of large projects have been applied to a different kind of Program Manager, one who is involved in "managing" a number of electronics systems design and installation projects in Naval Electronics System Command's Field Activities. The study determined that many of the areas of consideration for large program management offices can be applied to the managers of smaller projects. The role of the Program Manager in this environment is discussed, a matrix type organization is recommended, and the many facets of a Program Manager in the NAVELEX Field Activity are reviewed.

TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	i
<u>Section</u>	
I. INTRODUCTION.....	1
II. BACKGROUND.....	3
Naval Electronics System Command.....	3
Mission.....	3
Organization.....	3
Field Activities.....	5
Mission.....	5
Functions.....	5
Organization.....	7
Program Managers.....	7
III. STUDY PROJECT METHODOLOGY.....	9
IV. PROGRAM MANAGERS RULE.....	10
Organization.....	10
Duties.....	12
Authority.....	14
Responsibility.....	15
Physical Location.....	16
Management Information Systems.....	17
Communications.....	18
V. SUMMARY.....	19
APPENDIX A: NAVELEXSYSCOM Duties and Responsibilities.....	20
APPENDIX B: Field Activity Simplified Organization Chart.....	22
BIBLIOGRAPHY AND LIST OF REFERENCES.....	23

I. INTRODUCTION

The Defense Systems Management College describes "Program Management" as "the art of getting one thing, your program, done through people." (13,-)

This definition appears to be quite proper and is applicable to Program Managers in many diverse occupations and at any level of complexity. However, the instructor in such courses as Fundamentals of Program Management, Overview of Systems Acquisition, Program Financial Management and Control, and Systems Engineering/Logistics Management have both amplified and restricted this definition such that Program Management is:

"The process of conceiving, developing, producing, placing into operation, and supporting a major weapons system." This view places the major thrust of the College on Program Management in the Systems Acquisition Process.

However, there are people called Program Managers who are involved in other types and levels of work than those described at Defense Systems Management College. The Naval Electronics Systems Command (NAVELEXSYSCOM) utilizes Program Managers in various ways. The ones having the most visibility are those in the PME's. They function in a manner similar to the Program Manager described at DSMC. NAVELEXSYSCOM also has Program Managers in the 05 Directorate who perform varied functions including the acquisition of electronic equipment. They look upon themselves as Program Managers in every sense.

The NAVELEX Field Activities view Program Management in a completely different way. They have a group of people called Program Managers

who perform a multitude of tasks primarily concerned with the coordination of the efforts of the functional codes. They are called Program Managers, and they look upon themselves as such, but do not fit the description of Program Managers as viewed by those familiar with Program Management at the Headquarters level.

In this study, the major facets of Program Management as viewed by the NAVELEX Field Activities will be investigated, studied, and examined. It should be understood that these Program Managers, although called the same as the Headquarters Personnel, are quite different.

II. BACKGROUND

NAVAL ELECTRONICS SYSTEM COMMAND

MISSION

The mission of the Naval Electronics System Command (NAVELEX SYSCOM) is to provide material support functions for Electronic Systems used in support of the Fleet, both ashore and afloat. A comprehensive list of those systems supported and other duties and responsibilities are attached as appendix A. (1:I-1)

ORGANIZATION

Naval Electronic Systems Command contains a Headquarters located in National Center, Building NCI at Crystal City in the Washington area and Field Activities dispersed at other locations in the continental United States and overseas.

The Headquarters Organization contains approximately 1,000 people divided among Directorates, Project Managers and specialized staff groups.

NAVELEX Headquarters is organized into five directorates as follows: ELEX 01, Planning, Programming and Resources Management Directorate is the Command's General and Financial Manager; ELEX 02, Contracts Directorate is the NAVELEX agent for contracting with industry; ELEX 03, Research and Technology Directorate, is responsible for overall program and technical management of the NAVELEX RDT&E program; ELEX 04, Logistics Directorate, provides life cycle support for NAVELEX systems/equipments and ELEX 05, Material Acquisition Directorate, provides program and technical management for the acquisition of electronic systems/equipments.

NAVELEX has several designated Project Managers, PMEs, responsible for managing the acquisition of one or more designated major systems. Designation is governed by a requirement for intensified management based on dollar value, national urgency, and/or recommendation by higher authority. Each PME reports directly to COMNAVELEX, and each operates with authority and responsibilities specified by an approved charter. The following Project Managers are now operating in NAVELEX: PME 106, Navy Space Project; PME 107, REWSON Systems Project; PME 108, Command, Control and Communications (C³) project; PME 117, Special Communications Project; PME 119, Omega Navigation Systems Project; PME 121, Naval Special Remote Sensor Systems Project; and PME 124, Underseas Surveillance Project. (1:II-2)

The Field Activity organization contains approximately 2,000 people in eight Systems Engineering Centers (NAVELEXSYSENGCEN), and specialized activities such as the Navy Space Systems Activity (NSSA), the Navy Space Project Activity (NSPA), the NAVELEX Systems Security Engineering Center (NAVELEXSYSSECENGCE) and the Naval Electronic Test and Evaluation Detachment (NESTED), a major detachment of NAVELEXSYSENGCEN Portsmouth. NAVELEXSYSENGCENs provide electronics support to a wide range of shore activities and fleet elements in their local areas, and are sufficiently flexible to provide support to another area if required. In addition to the responsibilities for generalized electronics services in the local area, these centers receive "specialist" assignments which may cover a wider geographic area. For example, the centers at Philadelphia and Vallejo have been given specialist assignments for air navigation aids systems east and west of the Mississippi, respectively. (1,II-102)

FIELD ACTIVITIES

MISSION

The Field Activities provide engineering and material support to a wide range of shore facilities and fleet elements. They provide general support in the local geographical areas and specialized support anywhere it is required. Under the recently implemented "Technical Manager Plan", each Field Activity is designated Technical Manager for specific systems/equipments and provides specialized support for those systems/equipments wherever required. (3:1)

FUNCTIONS

In carrying out their mission each Field Activity gets involved in a multitude of different activities. Since assignments are becoming increasingly specialized, each Field Activity has its own primary mission, which in a large part may be different from all others, and each has many secondary missions making it difficult to describe a "main thrust" that is applicable to all.

Task assignments are made by Headquarters and vary from specific detailed assignments, with explicit instructions, guides and limits, to broad general projects covering wide areas, and with considerable latitude in carrying out the assignment. Most of these assignments involve the systems design, installation material procurement, installation, and test/check-out of electronics systems ashore and afloat. In most cases the general requirements are developed by the user or sponsor, amplified by Headquarters and forwarded to the Field as a task assignment. The Field Activity, in consultation with the end user (i.e: Naval Air Station Facility or a ship) develops the

preliminary system design, and/or a Base Electronics Systems Engineering plan (BESEP). This document specifies:

- (1) The basic configuration.
- (2) What and how much equipment is to be supplied to meet the operational requirements.
- (3) The tests to be performed to assure that an adequate system to meet the requirements has been installed.
- (4) The test equipment needed to support the system once in operation.
- (5) The responsibility of the different commands involved in the project.

Cost estimates and schedules for project accomplishment are developed and forwarded with this package to NAVELEXSYSCOM, the user/sponsor and others as required. After approval and funding of this BESEP by Headquarters and the user/sponsor, the Field Activity develops a detailed set of installation plans including a Bill of Materials. Then it orders the installation material, accomplishes the installation, performs test/check-out and turns the completed system over to the station or ship. In most cases the equipment (i.e: radar set, radio transmitter, teletype machine, crypto device, etc.) is procured and furnished by Headquarters. The Field Activity procures the rest of the installation material needed (i.e: waveguide, cable, etc.) to complete the installation of the system. When the system is accepted by the station or ship, the maintenance responsibility is accepted also. The NAVELEX Field Activity will provide technical assistance when requested, but does not assume general maintenance responsibility.

Examples of this type of project are:

- (1) A shore communication center with remote transmitter and receiver sites.
- (2) An air traffic control system at a Naval Air Station consisting of radar sets, ground to air communications, sub systems, radar repeaters and navigational aids.
- (3) Electronic warfare equipment
- (4) Satellite communication equipment on board ships.
- (5) Equipment such as Electronic countermeasures.
- (6) Air traffic control at shore training facilities.

ORGANIZATION

As the assignments are varied, so are the organizations. Each Field Activity has its own unique requirements and has developed its own organization tailored to its needs. Usually each has a top echelon consisting of a Commanding Officer and Civilian Technical Director with the administrative group as a staff function. Below this is a group of Departments. Some have these arranged functionally (i.e: planning, engineering, installation, etc.), others by task or project (i.e: Shore, Fleet, RF System, ATC, Communications, etc.) and still others have a mixture.

PROGRAM MANAGERS

As the organizations vary, so do the Program Managers. Some field activities have them grouped in the Planning and Program Management Department, others are located in the functional codes, while at least one has none at all. Regardless of the location, they are usually tasked with:

- (1) Scheduling tasks.
- (2) Reporting progress.
- (3) Arranging for and management of funds.
- (4) Establishing priorities.
- (5) Monitoring contracts for design and installation.
- (6) Being the point of contact for the customer and Headquarters. (4:1)

III. STUDY PROJECT METHODOLOGY

In order to expand my own knowledge of the present role of the Program Manager in the field activities, I conducted interviews with selected NAVELEXSYSCOM Headquarters people. I also conducted telephone interviews with selected personnel in the field activities to obtain their viewpoint.

The information presented in PMC 76-2 on Program Management, both lecture and written, was researched to better understand the various roles played by Program Managers in different environments. Books in the Defense Systems Management College Library were also used, as well as NAVELEXSYSCOM instructions, field activity instructions, and selected Program Managers position descriptions.

IV. PROGRAM MANAGERS ROLE

The essence of the Program Manager's role is to be the agent of the field activity in coordinating the accomplishment of the assigned projects. He has the vantage of a large perspective of the project and the interrelationships among its elements. He must be the major motive force for propelling the project through its phases to its successful completion. In the following paragraphs, major elements of the Program Managers role are discussed.

ORGANIZATION

The Program Manager is responsible for organizing and coordinating the activities/functions involved in achieving the successful completion of the assigned project. He is usually superimposed upon the functional organization, thereby creating new and complex relationships.

One approach to the tailoring of an organization to meet individual Field Activity needs is to set the Program Manager up in a "staff" position to top management. In this position he has a lot of visibility, but very little authority of his own. At the other end of the spectrum, a Program Management office may be established with sufficient trained specialized personnel and with complete authority given to the Project Manager over all activities necessary to carry out the assigned mission. (5:231)

Neither of these approaches is considered suitable for the Program Manager in a NAVELEX Field Activity. A matrix form is a compromise between the two extremes and is more suitable for the type of

Program Management to be found in the NAVELEX Field Activities. Therefore this paper proposes this form of organization.

Because of the great diversity among the field activities, it would be impossible to set forth a single organizational structure (chart) which would fairly represent all activities. For purposes of illustrating the role of the Program Manager, appendix B is provided showing a simplified organizational chart. In this simplified chart, only the major functions are shown, with no attempt to departmentalize them. Each function could be an individual department or they could be grouped together to make departments, divisions, branches, etc. For the purpose of showing the relationship of the Program Manager to the functional codes, the grouping of the functions is unimportant and the chart should suffice as is.

Each functional code and the Program Manager has its own vertical flow of authority and responsibility in accordance with the normal "chain of command". All administrative functions such as leave, performance appraisals, etc. are handled in the normal vertical manner. Task assignments are made through the supervisor, that is which employee works on what project. The supervisor monitors and reviews each employee's task performance as he would in a regular vertical only type organization.

The Program Manager operates along the dotted lines shown on the chart (appendix B). He is free to communicate directly with each functional code as required to coordinate the accomplishment of the task. Examples are:

- (1) Reviewing fund status with the accountant
- (2) Checking on delivery of material with the logistics group
- (3) Coordinating the schedule for completion of design plans between the design engineer and the installation schedules
- (4) Providing information to the management information center to update the project status report

The horizontal flow of information on the dotted lines is not restricted to the Program Managers. Each functional code can use them to communicate directly with others involved in the project.

Great care must be exercised in the use of this plan. It is all too easy for the Program Manager and others to forget the vertical lines and just operate horizontally. When this happens the functional managers are not properly appraised of what is going on. It is imperative that those using the horizontal line keep the supervisors advised as to the what, why and how of their actions.

DUTIES

The Program Manager has a number of different tasks he is required to perform. It is his duty to see that the project progresses in accordance with the schedule. This may require doing one thing at one time and another thing at another time. Therefore he must be willing to do whatever is necessary to achieve successful completion of the project. (8:2) He should not be afraid to do whatever needs doing just because "that's not my job". Those things which he should be doing are:

- (1) Acting as the single point of contact between the Field Activity and the customer (Air Station, Facility, ship, etc.) and/or the

tasking command (NAVELEX, NAVAIR, NAVTELCOM, etc.). In this role he maintains continuity in the flow of information back and forth. This greatly reduces the probability of the "left hand not knowing what the right hand is doing". However, this should not preclude communication between the functional codes and their counter parts elsewhere, as they must talk to each other in order to conduct business. The Program Manager needs to know that this communication is taking place and generally what is being discussed.

(2) Scheduling tasks assignments as they are received. In this role he receives the task assignment, passes it on to the appropriate functional code and coordinates the scheduling of the doing of the task among those codes involved. He establishes priority and keeps the functional codes advised as to the relative priority of those tasks assigned to them.

(3) Monitoring progress of tasks being worked. Through some kind of Management Information System (MIS) he keeps track of the progress in each phase of the task accomplishment throughout the life of the project, and should be the first to catch problems/slippages. He advises the concerned codes of the coming problem and works with them to reschedule, change priorities, obtain additional manpower or whatever to get the program back on the track.

(4) Reporting progress to top management, the customer and NAVELEX Headquarters. In this role he would prepare reports such as the 5200 series reports which go to NAVELEXSYSCOM Headquarters and periodic reports to management. The frequency of these reports to management are flexible and will be established for each field

activity, but should be minimized such that only those reports absolutely needed are provided. To reduce duplicate reporting, management should look to the Program Manager only for these progress reports. The functional codes should report progress to the Program Manager who assembles the reports to make a consolidated report to management.

(5) Monitoring expenditure of funds. In this role the Program Manager serves as the "watchdog of the treasury" by continually monitoring the expenditure of the funds received for each project. He exercises his financial management responsibility by insuring that funds are being spent at a rate compatible with the work progress and alerting the functional codes when irregular spending rates indicate a potential problem in the project.

AUTHORITY

The essence of Program Management is that it is interfunctional and often in conflict with the normal functional organization structure. Thus, where the Program Management approach is used, there is a natural conflict system. Instead of an organization operating under the traditional view with a well-defined hierarchical structure, a unity of command, and clear-cut authority and responsibility relationships, the system is much more dynamic and less structured. (5:233)

There is a tendency towards considerable interdepartmental conflict, primarily due to the competition between departments/divisions for authority, power, and influence. If such conflicts are allowed, the result is low production, wasteful conflict of ideas, and generally low morale. (6:122)

In this type of situation there are two major types of power-position power and personal (or influence) power. An individual who is able to induce another individual to do a certain job because of his position in the organization is considered to have position power, while an individual who derives his power from his ability to influence others has personal power. (7:92)(11:16)

The Program Manager is thrown right into the middle of this conflict. The environment of Program Management therefore places an extraordinary premium on the talent for leadership as distinguished from command, or persuasion as distinguished from direction. Since he has little (or no) position power, this environment requires an emphasis on informal authority, de-facto authority, or influence-personal authority as opposed to position power. His power must therefore be derived from his persuasive ability, his rapport with extra-organizational units, and his reputation in resolving opposing view points within the organization. (8:4) This point cannot be overemphasized. The successful Program Manager in a matrix organization must be able to work with people to get them to do what has to be done without having final authority over them. Technical expertise, program familiarity, knowledge of Headquarters, and years of experience are to no avail if the Program Manager in a matrix organization does not have the ability to use this personal/influence power. (9:239)

RESPONSIBILITY

The Program Manager is not a "doer" of any job-there are others charged with the doing. His job is to see to it that what he wants

done, get done, and in harmony if possible. This role implies reliance on others to do the work, but it also implies controlling and coordinating the work so that no one aspect dominates others to the detriment of the harmony of the whole. He may rely on others to do the work, but he cannot escape his responsibility for the result. For example, he could not be held responsible for a technical error in the design plans, or the delivery of the wrong material, but he can and should be held responsible for the timely scheduling of the completion of the design or that the material was ordered in sufficient time to arrive on the job. He is not responsible for what a functional code does, but his responsibility lies in seeing that their tasks are done in accordance with the schedule. (8:5)

PHYSICAL LOCATION

A major portion of the Program Manager's time will probably be spent with people from Engineering, Fiscal and Installation. Usually the Program Manager is located in the vicinity of his supervisor, or in the general area assigned to the department to which he belongs. This is quite satisfactory as long as this area is not too far from the people mentioned above. If the Program Manager's home department happens to be some distance from the functional codes, serious consideration should be given to "remotely locating" the office to the area where most of the work will be done. It is more important to have the Program Manager close to the functional code than to his supervisor.

Regardless of where his office is located, the Program Manager should spend very little time in it. The most important function

is the coordinating of all the "doers" and this can be effectively accomplished only by being "out there" with them. The Program Manager should be constantly in contact with each person or functional code involved in the project. Telephone contacts are not adequate. The Program Manager should be a familiar face among the "doers" so that they become accustomed to his presence and recognize that he is a part of the team. If the Program Manager remains in his office and only comes out when there is a problem, the "doers" will soon forget that he is the Program Manager and tend to ignore him. One school of thought is that the Program Managers should be given small uncomfortable offices in order to drive them out to where the work is being done.

MANAGEMENT INFORMATION SYSTEMS

Program Managers and the higher managers to whom they report must have a management information system which will enable them to plan, estimate, schedule, integrate, forecast, evaluate, and control all the many projects going on at one time. This system should also allow him to keep track of fund expenditures, allocate resources, or reschedule tasks due to slippages, technical problems, and/or priority changes. The rapid development of the computer has allowed the rather easy production of "tons" of reports on the many facets of the problem. In fact, it is easy to generate so much program information that the user is buried under the load of paper and can't begin to sift through it all to get to what he needs. Therefore the task of the Program Manager is to have the management information center develop a system that is tailored to

the needs of that particular project. One of the hard parts of the task is to define the minimum requirements. The system should provide short concise, easily read and understood reports. They should be intended to serve operating managers, and not to provide intellectually fascinating opportunities for managers to play with their new toy and see how much they can generate. (12:6,13)

COMMUNICATIONS

The role of the Program Manager requires him to rely on others to accomplish tasks he wants done, without his having position power over them. Therefore he must use his personal influential power to get them to do what he wants done. In order to do this, there must be an open line of communication between the Program Manager and the functional codes. The Program Manager can be the key to successful communications by creating a situation in which the different parties (and he may be one of them) come to understand each other from the other's point of view. This can be achieved, even when feelings run high, by the influence of the Program Manager if he is willing to understand each point of view and act as a catalyst to precipitate further understanding. (10:31)

The matrix type organization put forth in this paper requires, in fact demands, that there be a free flow of information horizontally, diagonally, and vertically between all personnel involved. If this communications system breaks down, the project comes apart, usually with dire results. The Program Manager should "keep his eyes open, his ear to the ground, and his sixth sense receiver gain up high" to detect these communication break-downs and patch them up before they get out of hand.

V. SUMMARY

For as long as the Program Manager concept has been used in the field activities, the Program Manager has been and will continue to be the key person. The degree of success of assigned projects will be directly related to how well he does his job. He is tasked to insure successful completion of projects with little position power. Therefore he must use his personal influential power to get the multitude of different tasks done. His personality and leadership abilities are much more important than technical knowledge and years of experience. Only those people who can perform in this environment should aspire to be a Program Manager. He must be all things to all people, truly a "man for all seasons".

APPENDIX A

NAVAL ELECTRONIC SYSTEMS COMMAND

General Duties and Responsibilities

The Naval Electronic Systems Command is responsible for performing material support functions for the following electronic systems and equipment:

1. Command/Control/Communications systems (platform to platform), complete.
2. Underseas and space surveillance.
3. Space systems.
4. Navigation aids, air traffic control, and automatic landing systems, less airborne.
5. Marine Corps expeditionary and amphibious.
6. ESM (Electronic Support Measure) and ECM (Electronic Countermeasure) systems (less airborne) and ECCM (Electronic Counter-countermeasures) applicable to other assigned systems.
7. Cryptographic and Cryptologic equipment.
8. IFF, less airborne.
9. Television, except non-standard systems integral with weapon system.
10. General purpose electronic test equipment.
11. Radiac.
12. Standardized telemetry equipment and components.
13. Common equipment, components, and parts.
14. PTI (precise time and time interval) equipment.

APPENDIX A (Continued)

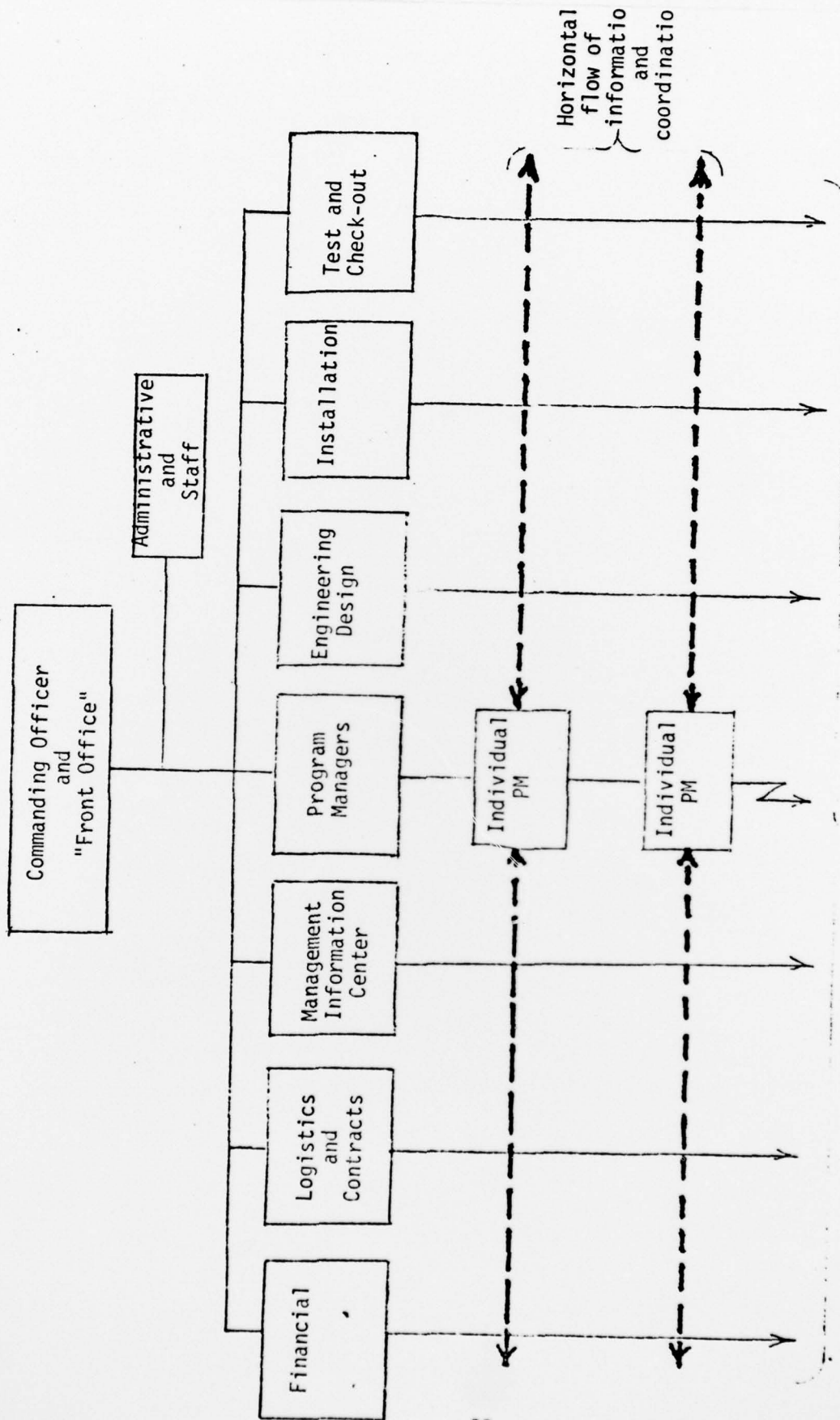
15. Intelligence systems.
16. Remote sensor systems.
17. Multi-platform systems not otherwise assigned.
18. Shore electronic systems not included above.

The following systems/equipments are exceptions to the above assignment and are assigned to other Systems Commands. However, in any instance where communications, command, and control (platform to platform) are involved, the Commander, Naval Electronic Systems Command will exercise final material authority.

1. Interior communications.
2. Antennas integral to submarine hull or airframe.
3. Special purpose test equipment.

The Naval Electronic Systems Command is responsible for systems integration of the systems and subsystems included in paragraph 1 above, and will exercise final material authority in any instance where command, control, and communications (platform to platform) is involved. Platform Systems Commands will continue to exercise their overall systems integration responsibilities (including installation engineering). These responsibilities are to be exercised in accordance with platform integration plans to be developed jointly with other SYSCOM's or PM's who are assigned responsibilities for specific platforms.

APPENDIX B



Vertical flow of functional authority and responsibility

SIMPLIFIED ORGANIZATIONAL CHART

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